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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,870	11/19/2001	Haruhiko Hasegawa	S004-4465	9217

7590

06/19/2003

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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,870

Applicant(s)

HASEGAWA ET AL.

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response preliminary amendments filed December 30, 2002. Claims 1-21 are currently pending.

Drawings

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "16" and "60" in Figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claim 13 is objected to because of the following informalities:

In claim 13, last line, "a the ultrasonic vibrations" is improper. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

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form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5, 8-10, 12, 16 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ernst (U.S. Patent 5,066,857).

Regarding claims 1, 5, 8-10, 12, 16 and 21, Ernst discloses (see Figure 1) an electronic apparatus, comprising: a movable member (S_{2a}) movably driven to perform a given function; a position detecting device (B_{2a} , RP_{2a} ; or B_{1a} , RP_{1a}) for detecting the position of the movable member; an actuator (spindle of machining tool; see column 2, lines 64-65) having a moving member (gears; not labeled) movably driven to drive the movable member; a readable member (S_{1a}) for providing location information of the movable member; and a guide member (shaft W_{1a}) for holding the movable member, the actuator and the readable member in a fixed orientation with respect to each other. Ernst also discloses (see Figure 1) the movable member is mounted to undergo rotary motion, and the guide member (W_{1a}) is fixed to a position offset from a center of rotation of the movable member. Ernst further discloses (see Figure 2) the movable member comprises an attenuator (slit shape on S_{2a}). In addition, Ernst discloses (see Figure 2) the readable member has a plurality of slits (T_a), and the position detecting device comprises a light emitting device (B_{1a}) disposed on one side of the slits for emitting light through the respective slits, and a light receiving device (RP_{1a}) disposed on an opposite side of the slits for receiving light passing through the slits and outputting a corresponding signal.

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7. Claims 1, 3, 4, 9, 10, 12, 16, 17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nomura et al. (U.S. Patent 5,821,531).

Regarding claims 1, 3, 4, 9, 10, 12, 16, 17, 19 and 20, Nomura et al. disclose (see Figure 12) an electronic apparatus, comprising: a movable member (59a) movably driven to perform a given function; a position detecting device (57a or 57b) for detecting the position of the movable member; an actuator (30; see Figure 5) having a moving member (gears and shaft) movably driven to drive the movable member; a readable member (59b) for providing location information of the movable member; and a guide member (shaft A) for holding the movable member, the actuator and the readable member in a fixed orientation with respect to each other. Nomura et al. also disclose (see column 13, lines 45-50) the guide member is formed integrally with at least one or two of the moving member, the readable member and the movable member. In addition, Nomura et al. disclose (see Figure 12) the readable member has a plurality of slits (S), and the position detecting device comprises a light emitting device (B_{1a}) disposed on one side of the slits for emitting light through the respective slits, and a light receiving device (see column 12, lines 25-35) disposed on an opposite side of the slits for receiving light passing through the slits and outputting a corresponding signal. Nomura et al. also disclose (see column 13, lines 15-35) a control circuit (61) for controlling the moving mechanism based on an output signal of the light receiving device.

8. Claims 1, 2, 7, 10, 11 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (U.S. Patent 4,920,905).

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Regarding claims 1, 2, 7, 10, 11 and 18, Nakamura et al. disclose (see Figure 1) an electronic apparatus, comprising: a movable member (24) movably driven to perform a given function; a position detecting device (40a, 42a, 44a, 46a, 40b, 42b, 44b, 46b) for detecting the position of the movable member; an actuator (coupled to 10; not shown) having a moving member (10) movably driven to drive the movable member; a readable member (26) for providing location information of the movable member; and a guide member (18) for holding the movable member, the actuator and the readable member in a fixed orientation with respect to each other. Nakamura et al. further disclose (see Figure 2 and column 2, lines 65-68) a sectional shape of the guide member is non-circular (at 26a). Nakamura et al. also disclose (see Figure 2) the readable member has a fixing member (26a) that allows fixing of the readable member to the guide member in only one given manner to eliminate the need for initial adjustments.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Ernst or Nomura et al.

Regarding claims 2 and 18, Ernst or Nomura et al. disclose the claimed invention as set forth above. Ernst and Nomura et al. do not specifically disclose the shape of the guide member is non-circular. However, it has been held that a change in shape is a

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matter of design choice and would require only routine skill in the art. *In re Dailey*, 149 USPQ 47. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a non-circular or any other desired shape guide member in the device of Ernst or Nomura et al. as desired to correctly couple the member to a device.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. in view of Maruyama (U.S. Patent 6,421,506).

Regarding claim 6, Nomura et al. disclose the claimed invention as set forth above. Nomura et al. do not specifically disclose the actuator is an ultrasonic motor. Maruyama teaches (see column 6, lines 57-64) a similar device in which the actuator is an ultrasonic motor. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an ultrasonic motor in the apparatus of Nomura et al. in view of Maruyama to obtain a more efficient and compact device.

12. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. in view of Tsukimoto (U.S. Patent 5,886,455).

Regarding claims 13-15, Nomura et al. disclose the claimed invention as set forth above. Nomura et al. further disclose the movable member comprises an optical attenuator (the slits attenuate light). Nomura et al. do not specifically disclose the motor is an ultrasonic motor having a piezoelectric element as claimed. Tsukimoto teaches (see Figure 16) an ultrasonic motor configuration in a camera (see column 11, line 17) having a readable member (56) comprising a vibrator having a piezoelectric member

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(42, 41) for producing ultrasonic vibrations in the vibrator and a plurality of projections (L-shaped projections in 41) extending from the vibrator; and the moving member (53, 50) is disposed on the projections to undergo movement in response to the ultrasonic vibrations. Tsukimoto also discloses (see Figure 16) the vibrator and the movable member are mounted on a shaft (along 45) as claimed. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such an ultrasonic motor configuration in the apparatus of Nomura et al. in view of Tsukimoto to provide a more efficient and compact driving mechanism.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
June 5, 2003


Thanh X. Luu
Patent Examiner